WEST Search History

DATE: Sunday, December 15, 2002

Set Name side by side	Query	Hit Count	Set Name result set
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L12	l10 and L11	12	L12
L11	antimicrobial or antibacterial	104116	L11
L10	l8 and L9	14	L10
L9	adhesive	773989	L9
L8	l6 and L7	52	L8
L7	oral	148595	L7
L6	ascorbyl phosphate	400	L6
L5	l1 and L4	1	L5
L4	polymeric.ti.	32702	L4
L3	l1 and L2	6	L3
L2	3m.as.	7001	L2
L1	godbey.in.	55	L1

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=> s ascorbyl 2 phosphate
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        169107 PHOSPHATE
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RN   23666-04-8  REGISTRY
CN   L-Ascorbic acid, 2-(dihydrogen phosphate), magnesium salt (1:1) (8CI, 9CI)
     (CA INDEX NAME)
OTHER NAMES:
CN   Magnesium ascorbyl 2-phosphate
FS   STEREOSEARCH
MF   C6 H9 O9 P . Mg
CI   COM
LC   STN Files:   BEILSTEIN*, CA, CAPLUS, CHEMLIST, TOXCENTER, USPATFULL
         (*File contains numerically searchable property data)
CRN  (23313-12-4)

Absolute stereochemistry.
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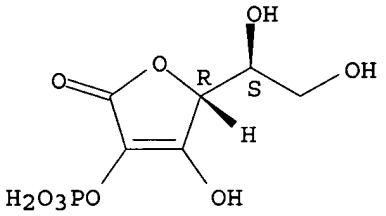


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              80 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L1   ANSWER 2 OF 2  REGISTRY  COPYRIGHT 2002 ACS
RN   23313-12-4  REGISTRY
CN   L-Ascorbic acid, 2-(dihydrogen phosphate) (8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Ascorbic acid 2-phosphate
CN   L-Ascorbic acid 2-phosphate
CN   L-Ascorbic acid 2-phosphate (ester)
CN   L-Ascorbyl-2-phosphate
FS   STEREOSEARCH
DR   172173-78-3, 81877-56-7
MF   C6 H9 O9 P
CI   COM
LC   STN Files:   AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, DDFU, DRUGU,
       EMBASE, IPA, MEDLINE, PROMT, TOXCENTER, USPAT2, USPATFULL, VETU
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Absolute stereochemistry.
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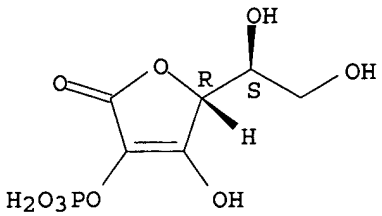

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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16 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
248 REFERENCES IN FILE CAPLUS (1962 TO DATE)

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        169107 PHOSPHATE
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        169107 PHOSPHATE
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L3   ANSWER 1 OF 5  REGISTRY  COPYRIGHT 2002 ACS
RN   128808-26-4  REGISTRY
CN   L-Ascorbic acid, phosphate, sodium salt (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Ascorbic acid phosphate sodium salt
CN   Sodium ascorbyl phosphate
FS   STEREOSEARCH
MF   C6 H8 O6 . x H3 O4 P . x Na
CI   COM
SR   CA
LC   STN Files:   BIOSIS, CA, CAPLUS, CEN, TOXCENTER, USPATFULL

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     CRN  7664-38-2
     CMF  H3 O4 P
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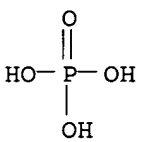

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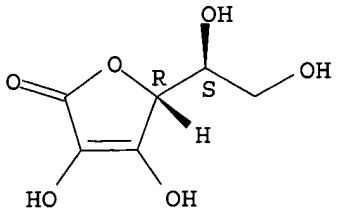
Absolute stereochemistry.



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L3 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN 128808-25-3 REGISTRY
CN L-Ascorbic acid, phosphate, potassium salt (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Potassium ascorbyl phosphate**
FS STEREOSEARCH
MF C6 H8 O6 . x H3 O4 P . x K
SR CA
LC STN Files: CA, CAPLUS

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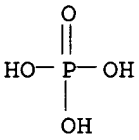

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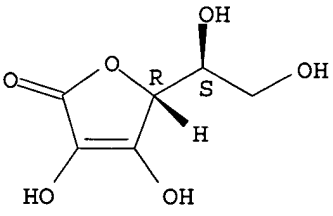
Absolute stereochemistry.



7 REFERENCES IN FILE CA (1962 TO DATE)
7 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L3 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN 128808-24-2 REGISTRY
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OTHER NAMES:

CN **Calcium ascorbyl phosphate**
FS STEREOSEARCH
MF C6 H8 O6 . x Ca . x H3 O4 P
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

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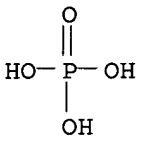
CMF H3 O4 P



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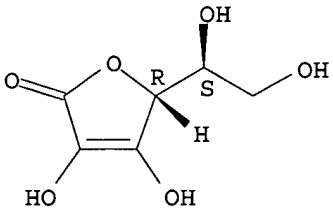
CMF C6 H8 O6

Absolute stereochemistry.



10 REFERENCES IN FILE CA (1962 TO DATE)
10 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L3 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN 125913-31-7 REGISTRY
CN L-Ascorbic acid, phosphate (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Ascorbic acid phosphate
CN **Ascorbyl phosphate**
CN Rovimix STAY-C
CN Rovimix STAY-C 25
CN Rovimix Stay-C 35
FS STEREOSEARCH
MF C6 H8 O6 . x H3 O4 P
SR CA
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, IPA, TOXCENTER, USPATFULL

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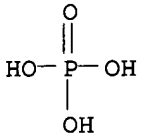

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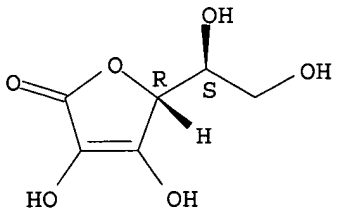
CMF C6 H8 O6

Absolute stereochemistry.



98 REFERENCES IN FILE CA (1962 TO DATE)
11 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
98 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L3 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2002 ACS
RN 108910-78-7 REGISTRY
CN L-Ascorbic acid, phosphate, magnesium salt (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Ascorbic acid phosphate magnesium salt
CN C-Mate
CN Magnesium ascorbate phosphate
CN **Magnesium ascorbyl phosphate**
CN Magnesium L-ascorbate phosphate
FS STEREOSEARCH
DR 224960-02-5
MF C6 H8 O6 . x H3 O4 P . x Mg
CI COM
SR CA
LC STN Files: BIOSIS, CA, CAPLUS, CEN, CHEMCATS, CSCHEM, TOXCENTER, USPATFULL

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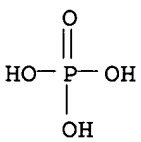

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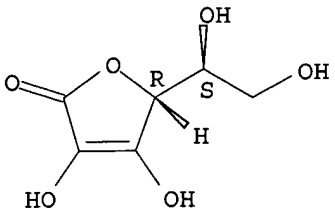
CRN 50-81-7
CMF C6 H8 O6

Absolute stereochemistry.



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276 REFERENCES IN FILE CAPLUS (1962 TO DATE)

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FULL ESTIMATED COST	48.58	48.79

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CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

=> d his

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     FILE 'REGISTRY' ENTERED AT 15:02:35 ON 15 DEC 2002
L1             2 S ASCORBYL 2 PHOSPHATE
L2             0 S 3 ASCORBYL 2 PHOSPHATE
L3             5 S ASCORBYL PHOSPHATE

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     CAPLUS, CEN, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, EMBAL,
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     MEDLINE, NAPRALERT, NLDB, PASCAL, PHARMAML, ...' ENTERED AT 15:04:57 ON
     15 DEC 2002

=> s l1 or l3
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=> s triclosan or chlorhexidine or cetylpyridinium or domiphen
L5         51801 TRICLOSAN OR CHLORHEXIDINE OR CETYLPYRIDINIUM OR DOMIPHEN

=> s strontium chloride or potassium nitrate or fluoride
  28 FILES SEARCHED...
L6        528902 STRONTIUM CHLORIDE OR POTASSIUM NITRATE OR FLUORIDE

=> s tartar control agent or pyrophosphate salt or zinc citrate trihydrate or
sodium hexametaphosphate or sodium tripolyphosphate
  20 FILES SEARCHED...
L7         16778 TARTAR CONTROL AGENT OR PYROPHOSPHATE SALT OR ZINC CITRATE TRIHY
                 DRATE OR SODIUM HEXAMETAPHOSPHATE OR SODIUM TRIPOLYPHOSPHATE

=> s hydrogen peroxide or carbamide peroxide or sodium percarbonate or sodium
perborate or chlorine dioxide or sodium tripolyphosphate
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L8        383624 HYDROGEN PEROXIDE OR CARBAMIDE PEROXIDE OR SODIUM PERCARBONATE
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                 TE

=> d his

     (FILE 'HOME' ENTERED AT 15:02:18 ON 15 DEC 2002)

     FILE 'REGISTRY' ENTERED AT 15:02:35 ON 15 DEC 2002
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L2             0 S 3 ASCORBYL 2 PHOSPHATE
L3             5 S ASCORBYL PHOSPHATE

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     MEDLINE, NAPRALERT, NLDB, PASCAL, PHARMAML, ...' ENTERED AT 15:04:57 ON
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L4          1302 S L1 OR L3
L5         51801 S TRICLOSAN OR CHLORHEXIDINE OR CETYLPYRIDINIUM OR DOMIPHEN
L6        528902 S STRONTIUM CHLORIDE OR POTASSIUM NITRATE OR FLUORIDE
L7         16778 S TARTAR CONTROL AGENT OR PYROPHOSPHATE SALT OR ZINC CITRATE TR
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L8 383624 S HYDROGEN PEROXIDE OR CARBAMIDE PEROXIDE OR SODIUM PERCARBONAT

=> s l4 and l5 and l6 and l7 and l8
L9 1 L4 AND L5 AND L6 AND L7 AND L8

=> d l9 ibib, kwic

L9 ANSWER 1 OF 1 USPATFULL

ACCESSION NUMBER:	2002:251775 USPATFULL			
TITLE:	Topical oral care compositions			
INVENTOR(S):	Montgomery, R. Eric, Monterey, MA, UNITED STATES			
PATENT ASSIGNEE(S):	Oraceutical LLC, Lee, MA (U.S. corporation)			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002137728	A1	20020926	
APPLICATION INFO.:	US 2002-56296	A1	20020124	(10)
	NUMBER		DATE	
PRIORITY INFORMATION:	US 2001-263884P		20010124	(60)
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	APPLICATION			
LEGAL REPRESENTATIVE:	BANNER & WITCOFF, LTD., 28 STATE STREET, 28th FLOOR, BOSTON, MA, 02109			
NUMBER OF CLAIMS:	10			
EXEMPLARY CLAIM:	1			
LINE COUNT:	776			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM [0003] The maintenance of healthy teeth and gums has long been the goal of modern dentistry. Since the advent of **fluoride** almost 50 years ago, the incidence of tooth decay, or caries, has decreased substantially. **Fluoride** is now found in drinking water and many consumer dental products, and has won widespread acceptance as a safe and. . . in the past 20 years has further expanded the therapeutic potential of topical oral care products. Antibacterial agents, such as **triclosan**, chlorhexidene salts, **cetylpyridinium** chloride, and **domiphen** bromide have been added to topical dental products to address gingivitis, periodontitis, halitosis and caries. Tooth desensitizers, such as **potassium nitrate**, **strontium chloride** and **fluoride** salts have been successfully employed to decrease tooth sensitivity. Tartar control agents, such as pyrophosphate salts, **zinc citrate trihydrate**, **sodium hexametaphosphate** and **sodium tripolyphosphate** are commonly used in toothpastes and mouthwashes to prevent the buildup of dental calculus on tooth surfaces. Tooth whitening agents, such as **hydrogen peroxide**, **carbamide peroxide**, **sodium percarbonate**, **sodium perborate**, **chlorine dioxide**, and **sodium tripolyphosphate**, have more recently been added to many dental products as auxiliary ingredients that add the perceived value of white (as. . .

SUMM . . . cancers. The term ROS encompasses free radicals (such as the hydroxyl radical, OH.) or precursors to free radicals (such as **hydrogen peroxide**, H.sub.2O.sub.2). While it is clear that the incidence of oral cancer is much higher in individuals who smoke and/or drink. . .

SUMM . . . abrasive is desired, silica abrasives are preferred, due to their inertness to many active therapeutic ingredients, such as sources of **fluoride** ion.

SUMM [0056] One or more anticaries agents, in particular **fluoride** containing or releasing compounds, may be advantageously included in the

ascorbyl phosphate compositions. Useful anticaries agents include sodium **fluoride**, sodium monofluorophosphate, stannous **fluoride**, amine fluorides, and other **fluoride** containing compounds capable of increasing the resistance of mineralized tissues in the oral cavity to caries formation (tooth decay). Anticaries. . .

SUMM . . . agent may be included in the inventive ascorbyl phosphate compositions. Such compounds are well known in the art, and include **triclosan**, **chlorhexidine** (and its salts), **cetylpyridinium** chloride, and essential oils including menthol, eucalyptol, thymol and methyl salicylate. Antimicrobial agents may be included in the ascorbyl phosphate. . .

SUMM . . . precipitation of calcium phosphate at the tooth surface), it may be advantageous to add a supplementary tooth desensitizer such as **potassium nitrate**, potassium citrate, or **strontium chloride** hexahydrate in order to further alleviate tooth sensitivity. Such supplementary tooth desensitizers may be included in the ascorbyl phosphate compositions at a concentration of from about 0.1% by weight to about 10% by weight of the composition. **Potassium nitrate** is the preferred supplementary tooth desensitizer and is included in the composition at a concentration of from about 3% to. . .

DETD . . . formulated into a mouthwash including the ingredients set forth below.

Ingredient	Percent (w/w)
Deionized water	86.190
Glycerin	7.500
Sodium tripolyphosphate	3.000
Polyethylene glycol 8000	1.000
Sodium saccharin	0.060
Sodium benzoate	0.500
Sodium ascorbyl-2-monophosphate	1.000
PEG-60 hydrogenated castor oil	0.600
Flavor. . .	

DETD . . . to include the following ingredients.

Ingredient	Percent (w/w)
Deionized water	17.298
Sodium ascorbyl-2-monphosphate	0.500
Sodium benzoate	0.500
Sodium **fluoride**	0.240
Titanium dioxide	1.200
Sodium saccharin	0.400
Sorbitol (70% solution)	34.562
Glycerin	18.000
Cellulose gum	1.000
Hydrated silica (abrasive)	17.500

. . .

DETD . . . ascorbyl-2-monophosphate, also known simply as sodium ascorbyl phosphate.

TABLE 1

Component	Mouthwash	Toothpaste/Gel
Water	46-99.9%	0-99.89%
Ascorbyl-2-phosphate	0.01-10%	0.01-10%
Fluoride ion (F-) source	0-4%	0-4%

Auxiliary active ingredient	0-10%	0-10%
Preservative	0-3%	0-3%
Humectant	0-30%	0-70%
Artificial sweetener	0-1%	0-2%

. . .

DETD [0072] Also contemplated is the inclusion of a phosphatase enzyme inhibitor, such as a **fluoride** ion source, in the compositions of the present invention. Other auxiliary oral care ingredients, such as those employed for tartar. . .

DETD . . . of eliminating or reducing both extrinsic and intrinsic tooth staining contain an oxidizing compound. Typically, the oxidizing compound is either **hydrogen peroxide**, or a precursor to **hydrogen peroxide**, such as **carbamide peroxide**, **sodium perborate**, **sodium percarbonate**, and others. It is known that **hydrogen peroxide** is able to penetrate through intact enamel and dentin (and more easily through cracks in enamel or exposed root surfaces),. .

.

DETD . . . phosphate applied to the oral cavity may reduce the likelihood of pulp tissue damage by scavenging free-radical degradation products of **hydrogen peroxide**, such as the hydroxyl radical (.OH) and the perhydroxyl radical (.OOH). An additional benefit may be obtained after hydrolysis of. . .

CLM What is claimed is:

8. The composition of claim 1 which optionally includes one or more of an anticaries agent, a **tartar control agent** , an antimicrobial agent, and a desensitizing agent.

IT **23313-12-4** 30784-77-1 109113-30-6 **125913-31-7**, Rovimix Stay-C 35 134885-32-8 143567-34-4
(topical oral care compns. contg. ascorbyl phosphate)

```
=> s oral care or teeth or tooth or gums or dentifrice or oral
  24 FILES SEARCHED...
L10    2769218 ORAL CARE OR TEETH OR TOOTH OR GUMS OR DENTIFRICE OR ORAL

=> d his

     (FILE 'HOME' ENTERED AT 15:02:18 ON 15 DEC 2002)

     FILE 'REGISTRY' ENTERED AT 15:02:35 ON 15 DEC 2002
L1             2 S ASCORBYL 2 PHOSPHATE
L2             0 S 3 ASCORBYL 2 PHOSPHATE
L3             5 S ASCORBYL PHOSPHATE

     FILE 'ADISCTI, ADISINSIGHT, ADISNEWS, BIOSIS, BIOTECHNO, CANCERLIT,
     CAPLUS, CEN, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, EMBAL,
     EMBASE, ESBIOBASE, IFIPAT, IPA, JICST-EPLUS, KOSMET, LIFESCI, MEDICONF,
     MEDLINE, NAPRALERT, NLDB, PASCAL, PHARMAML, ...' ENTERED AT 15:04:57 ON
     15 DEC 2002
L4          1302 S L1 OR L3
L5         51801 S TRICLOSAN OR CHLORHEXIDINE OR CETYLPYRIDINIUM OR DOMIPHEN
L6        528902 S STRONTIUM CHLORIDE OR POTASSIUM NITRATE OR FLUORIDE
L7         16778 S TARTAR CONTROL AGENT OR PYROPHOSPHATE SALT OR ZINC CITRATE TR
L8        383624 S HYDROGEN PEROXIDE OR CARBAMIDE PEROXIDE OR SODIUM PERCARBONAT
L9             1 S L4 AND L5 AND L6 AND L7 AND L8
L10      2769218 S ORAL CARE OR TEETH OR TOOTH OR GUMS OR DENTIFRICE OR ORAL

=> s l4 and l10
L11          71 L4 AND L10

=> s antibacterial or antimicrobial
L12      981256 ANTIBACTERIAL OR ANTIMICROBIAL
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=> s l11 and l12
  21 FILES SEARCHED...
L13          7 L11 AND L12

=> dup rem
ENTER L# LIST OR (END):l13
DUPLICATE IS NOT AVAILABLE IN 'ADISINSIGHT, ADISNEWS, DGENE, DRUGLAUNCH,
DRUGMONOG2, KOSMET, MEDICONF, PHARMAML'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L13
L14           7 DUP REM L13 (0 DUPLICATES REMOVED)

=> d l14 1-7 ibib, kwic

L14  ANSWER 1 OF 7  CAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:         2002:888524  CAPLUS
DOCUMENT NUMBER:          137:375265
TITLE:                    Polymeric carrier system for delivering cosmetics and
                          pharmaceuticals
INVENTOR(S):              Godbey, Kristin J.; Kantner, Steven S.; Scholz,
                          Matthew T.
PATENT ASSIGNEE(S):       3M Innovative Properties Company, USA
SOURCE:                   PCT Int. Appl., 30 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     WO 2002092049      A2   20021121       WO 2002-US12479  20020411
         W:  AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES,
             FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
             KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
             MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK,
             SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM,
             AZ, BY, KG, KZ
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
             CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     US 2002187181      A1   20021212       US 2001-854824   20010514
PRIORITY APPLN. INFO.:                   US 2001-854824   A  20010514
IT   Adhesives
     Anti-inflammatory agents
     Antibiotics
       Antimicrobial agents
     Antiperspirants
     Bleaching agents
     Cosmetics
     Dentifrices
     Deodorants (personal)
     Dyes
     Emulsifying agents
     Flavoring materials
     Foams
     Fungicides
     Hair preparations
     Humectants
     Insect repellents
     Nonwoven fabrics
     Odor and Odorous substances
```

Perfumes
Pigments, nonbiological
Plasticizers
Sunscreens
Suntanning agents
Textiles
(polymeric carrier system for delivering cosmetics and pharmaceuticals)

IT **Tooth**
(polymeric carrier system for delivering cosmetics and pharmaceuticals **teeth**)

IT 58-95-7, Tocopherol acetate 69-72-7, Salicylic acid, biological studies 124-43-6, Carbamide peroxide 1337-30-0, Sorbitan laurate 2466-09-3, Diphosphoric acid 3380-34-5, Triclosan 7558-80-7, Monosodium phosphate 7681-49-4, Sodium fluoride, biological studies 7722-84-1, Hydrogen peroxide, biological studies 18472-51-0, Chlorhexidine gluconate **128808-26-4**, Sodium ascorbyl phosphate
RL: COS (Cosmetic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymeric carrier system for delivering cosmetics and pharmaceuticals)

L14 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:594979 CAPLUS
DOCUMENT NUMBER: 137:121930
TITLE: An improved in vitro method of culturing mammalian cells for autologous cell implantation/transplantation methods
INVENTOR(S): Storgaard, Peter; Osther, Kurt
PATENT ASSIGNEE(S): Interface Biotech A/S, Den.
SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002061052	A2	20020808	WO 2002-DK65	20020129

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DK 2001-162 A 20010131

IT **Tooth**
(cementum; in vitro method of culturing mammalian cells for autologous cell implantation/transplantation methods)

IT Alzheimer's disease
Animal tissue culture
Antimicrobial agents
Blood serum
Blood vessel
Bone marrow
Brain
Brain, disease
Camel (Camelus)
Chemotaxis
Chondrocyte
Connective tissue

Culture media
Diabetes insipidus
Diabetes mellitus
Fibroblast
Horse (Equus caballus)
Human
Liver
Multiple sclerosis
Muscle
Myoblast
Neoplasm
Osteocyte
Pancreas
Parkinson's disease
Skin
Temperature
Transplant and Transplantation
pH
(in vitro method of culturing mammalian cells for autologous cell implantation/transplantation methods)

IT **Tooth**
(odontoblast; in vitro method of culturing mammalian cells for autologous cell implantation/transplantation methods)

IT 1397-89-3, Fungizone 1405-41-0, Gentamicin sulfate 7439-95-4, Magnesium, biological studies 7440-70-2, Calcium, biological studies 9001-12-1, Matrix metalloproteinase-1 9002-07-7, Trypsin 9004-06-2, Neutrophil elastase 9025-26-7, Cathepsin D 9047-22-7, Cathepsin B **23313-12-4**, L-Ascorbic acid 2-phosphate 56645-49-9, Cathepsin G 60616-82-2, Cathepsin L 71965-46-3, Cathepsin S 79955-99-0, Matrix metalloproteinase-3 94716-09-3, Cathepsin K 128028-50-2, Myeloblastin 140610-48-6, Matrix metalloproteinase-10 141256-52-2, Matrix metalloproteinase-7 145267-01-2, Matrix metalloproteinase-11 146480-35-5, Matrix metalloproteinase-2 146480-36-6, Matrix metalloproteinase-9 161384-17-4, Matrix metalloproteinase-14 172308-17-7, Matrix metalloproteinase-15 175449-82-8, Matrix metalloproteinase-13 182970-56-5, Matrix metalloproteinase-16 185766-51-2, Matrix metalloproteinase-20 186207-03-4, Proteinase inhibitor, TIMP 4 188364-80-9, Matrix metalloproteinase-19 203810-08-6, Matrix metalloproteinase-17 227604-60-6, Membrane type matrix metalloproteinase 5 252351-86-3, Matrix metalloproteinase-6
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(in vitro method of culturing mammalian cells for autologous cell implantation/transplantation methods)

L14 ANSWER 3 OF 7 USPATFULL

ACCESSION NUMBER:	2002:251775 USPATFULL
TITLE:	Topical **oral care** compositions
INVENTOR(S):	Montgomery, R. Eric, Monterey, MA, UNITED STATES
PATENT ASSIGNEE(S):	Oraceutical LLC, Lee, MA (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002137728	A1	20020926	
APPLICATION INFO.:	US 2002-56296	A1	20020124	(10)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 2001-263884P	20010124	(60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	BANNER & WITCOFF, LTD., 28 STATE STREET, 28th FLOOR, BOSTON, MA, 02109
NUMBER OF CLAIMS:	10

EXEMPLARY CLAIM: 1
LINE COUNT: 776
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Topical **oral care** compositions

AB Embodiments of the present invention are directed to topical **oral care** compositions including a free radical scavenging precursor compound.

SUMM [0002] The present invention relates to topical **oral** compositions that include a compound that generates a free radical scavenger compound to scavenge free radicals. Compounds according to the present invention include ascorbic acid precursor compounds that generate ascorbic acid when placed in the **oral** cavity. The present invention also relates to methods of using such compositions for preventing or curing various disease processes or symptoms of the **oral** cavity that are responsive to the presence of free radicals. The present invention also relates to **oral care** compositions that include phosphate precursor compounds that generate phosphates useful in **oral care** methods.

SUMM [0003] The maintenance of healthy **teeth** and **gums** has long been the goal of modern dentistry. Since the advent of fluoride almost 50 years ago, the incidence of **tooth** decay, or caries, has decreased substantially. Fluoride is now found in drinking water and many consumer dental products, and has. . . for large segments of the population. Innovation in the past 20 years has further expanded the therapeutic potential of topical **oral care** products. **Antibacterial** agents, such as triclosan, chlorhexidene salts, cetylpyridinium chloride, and domiphen bromide have been added to topical dental products to address gingivitis, periodontitis, halitosis and caries. **Tooth** desensitizers, such as potassium nitrate, strontium chloride and fluoride salts have been successfully employed to decrease **tooth** sensitivity. Tartar control agents, such as pyrophosphate salts, zinc citrate trihydrate, sodium hexametaphosphate and sodium tripolyphosphate are commonly used in toothpastes and mouthwashes to prevent the buildup of dental calculus on **tooth** surfaces. **Tooth** whitening agents, such as hydrogen peroxide, carbamide peroxide, sodium percarbonate, sodium perborate, chlorine dioxide, and sodium tripolyphosphate, have more recently. . . been added to many dental products as auxiliary ingredients that add the perceived value of white (as well as healthy) **teeth** to the consumer.

SUMM . . . radical, OH.) or precursors to free radicals (such as hydrogen peroxide, H.sub.2O.sub.2). While it is clear that the incidence of **oral** cancer is much higher in individuals who smoke and/or drink alcohol, and it is tempting to assume that such **oral** cancer is a direct result of the oxidative stress place on the soft tissues of the **oral** cavity, very few approaches have yet been developed to address the problem. Most efforts to date have centered on the diagnostic techniques required to detect **oral** cancer at early stages, when it is most curable. A number of means for measuring oxidative stress in **oral** soft tissues have been developed. A number of topical and **oral** compositions have been proposed that comprise one or more antioxidants and claim to counteract the soft tissue effects of free. . .

SUMM [0005] It has also been recently discovered that a certain type of **tooth** staining is the result of the formation of Maillard, or non-enzymatic browning, reaction products. Maillard reaction products are generally based. . . reaction products appearing off-white to yellowish-red to the naked eye. When Maillard reaction products form on the surface of the **teeth**, the **teeth** appear to be stained. The Maillard reaction can occur when reducing sugars (such as glucose) are present in aqueous solution together with amino-functional compounds (such as amino acids or the amino-side chains of proteins). The **oral** cavity and, in particular, surfaces of the

teeth that are covered with dental plaque, is an ideal environment (moisture, glucose, proteins, and body heat together in one locale). . .

SUMM . . . means of administering ascorbic acid to an organism or subject by means of ingestion, rather than topical application to the **oral** cavity (whereby conversion to free ascorbic acid occurs prior to ingestion, thereby exerting a therapeutic effect on one or more tissue surfaces of the **oral** cavity). The notion of **oral** residence time, or the amount of time a composition remains in contact with the **oral** cavity, is of importance in differentiating the compositions and methods of the present invention from those intended for administration by. . .

SUMM [0010] Considering the number of **oral** diseases or conditions that result directly or indirectly from the formation of ROS in the **oral** cavity, few attempts have been made to attenuate oxidative stress in the **oral** environment. The same cannot be said about efforts in non-**oral** skin care, where the effects of ROS on skin aging have been recognized for many years. U.S. Pat. No. 6,184,247. . . cell turnover by as much as 23%, this increase in desquamation is greatly overshadowed by the natural turnover rates of **oral** mucosal tissues (hard palate, buccal mucosal, floor of the mouth mucosal), which are normally in a range from about 10%. . .

SUMM . . . unlikely that both the ascorbic acid and underivatized phosphate moieties would be released for immediate bioavailability if applied to the **oral** cavity. The **oral** toxicity of these derivatives and their topical formulations is also unknown.

SUMM . . . same formulation, of many different cosmetic and toiletry ingredients; however it is inappropriate to include such ingredients together within an **oral** composition that must, by definition, be suitable for partial ingestion by the user.

SUMM [0013] Kayane, et al (U.S. Pat. No. 5,244,651) describe a method of desensitizing hypersensitive dentin comprised of treating **teeth** with a colloid produced by mixing a salt of a polyvalent metal and a polyol phosphate. The useful polyvalent metals. . . hydroxide is not water-soluble and thus is not mentioned by the inventors as a polyvalent metal of utility in the **tooth** desensitizing methods of the invention.

SUMM [0015] Thus, there is a need for **oral** compositions and methods comprising compounds that can scavenge free radicals and thereby reduce or eliminate the potential effects of reactive oxygen species on the tissues of the **oral** cavity.

SUMM [0016] There is also a need for **oral** compositions and methods that can provide for increased **tooth** surface remineralization capacity by increasing the availability of phosphate ions.

SUMM [0017] There is also a need for **oral** compositions and methods that can scavenge free radicals in the **oral** cavity, while simultaneously providing for increased **tooth** surface remineralization capacity by increasing the availability of phosphate ions.

SUMM . . . compound in combination with one or more additional dentally therapeutic ingredients, such as anticaries agents, tartar control agents, antiplaque agents, **antimicrobial** agents, antigingivitis agents, desensitizing agents, and combinations thereof.

SUMM . . . radical scavenging benefit as described above, while simultaneously providing at least one additional therapeutic benefit for the tissues of the **oral** cavity.

SUMM . . . that contain a stable source of ascorbic acid that does not deteriorate in the package prior to use in the **oral** cavity.

SUMM . . . a need for stable dental compositions that provide a bioactive source of ascorbic acid upon contact with tissues of the **oral** cavity.

SUMM . . . of the present invention are directed to compositions and methods comprising compounds that can scavenge free radicals present in the **oral** cavity, such as on tissue surfaces in the

oral cavity, and thereby reduce or eliminate the potential effects of reactive oxygen species on the tissues of the **oral** cavity. The compositions of the present invention include a precursor compound that generates a free radical scavenger when placed onto the tissue surface in an **oral** cavity. The free radical scavenger will in turn scavenge free radicals with which it comes in contact, thereby reducing the concentration of free radicals in the **oral** cavity. Reducing free radical scavengers in the **oral** cavity reduces the effects of conditions and diseases which result from the presence of free radicals in the **oral** cavity.

SUMM [0023] Embodiments of the present invention are further directed to compositions and methods that can provide for increased **tooth** surface remineralization capacity by increasing the availability of phosphate ions. The compositions of the present invention include a phosphate precursor compound that can generate phosphate ions when placed onto the tissue surface in an **oral** cavity. The phosphate ions generated by the phosphate precursor compound combine with cations, such as calcium ions present in the **oral** cavity, to form calcium phosphates that precipitate on or within the **tooth** enamel or dentinal tubules, and accordingly, remineralize the **tooth**.

SUMM . . . Embodiments of the present invention are directed to compositions and methods that include compounds which scavenge free radicals in the **oral** cavity, while simultaneously providing for increased **tooth** surface remineralization capacity by increasing the availability of phosphate ions.

SUMM . . . radical scavenging benefit as described above, while simultaneously providing at least one additional therapeutic benefit for the tissues of the **oral** cavity. According to the present invention the compositions optionally include one or more additional dentally therapeutic ingredients, such as anticaries agents, tartar control agents, antiplaque agents, **antimicrobial** agents, antigingivitis agents, desensitizing agents, and combinations thereof.

SUMM [0026] The compositions of the present invention include the ingredients in the form of an **oral** rinse, a mouthwash, a **dentifrice** with or without abrasives, toothpastes, creams, gels and other topical formulations well known to those skilled in the art.

SUMM . . . source of ascorbic acid that retains its potency and does not deteriorate in the package prior to use in the **oral** cavity. Further embodiments of the present invention provide stable dental compositions that include a bioactive source of ascorbic acid upon contact with tissues of the **oral** cavity.

SUMM . . . acceptable carrier, together with an optional auxiliary therapeutic ingredient, to prevent or cure various disease processes or symptoms of the **oral** cavity associated with the presence of free radicals. According to this aspect of the present invention, the composition including the ascorbyl phosphate is contacted with the tissue of the **oral** cavity. The ascorbyl phosphate generates ascorbic acid that then scavenges free radicals present on the tissue surface within the **oral** cavity, thereby reducing the concentration of free radicals present in the **oral** cavity. A particularly preferred ascorbyl phosphate is ascorbyl-2-phosphate.

SUMM . . . of the present invention includes a method of therapeutically treating an individual afflicted with a disease or condition in the **oral** cavity associated with the presence of free radicals. The method includes contacting tissue within the **oral** cavity with a composition including a therapeutically effective amount of a free radical scavenging compound or a free radical scavenging precursor compound in a manner to reduce the concentration of free radicals within the **oral** cavity. According to one aspect of the present invention, the composition is contacted with the tissue within the **oral** cavity for a period of time sufficient to reduce the concentration of free radicals. According to certain embodiments, the composition. . . The free radical scavenging precursor compound

generates a free radical scavenging compound that then scavenges free radicals present within the **oral** cavity.

SUMM [0030] In addition, the preferred ascorbyl phosphate compounds described herein display a surprising degree of adhesion to **oral** tissue including **tooth** enamel surface. Adhesion or attachment to the **tooth** enamel surface can prolong the effective duration of ascorbic acid and phosphate ion release into saliva by endemic phosphatase enzyme.

SUMM [0031] The term "topical" shall be used in this disclosure to mean applied to the surface of the intended target **oral** tissue, but shall also include **oral** tissue subsurfaces as a result of penetration of all or part of the inventive composition through said surface. For example, topical application of the inventive composition to the **tooth** enamel surface shall also include the underlying **tooth** structure (dentin, pulp, etc) that may become exposed to the composition by way of penetration through intact **tooth** enamel, or alternatively through the temporary exposure of such underlying **oral** tissue structure during a dental procedure.

SUMM [0033] According to certain preferred embodiments of the present invention, a topical **oral care** composition is provided which includes a free radical scavenging precursor compound in combination with orally acceptable carriers and optionally, therapeutically. . . A preferred free radical scavenging precursor compound is the family of ascorbyl phosphate compounds. The composition is placed within the **oral** cavity in contact with tissue within the **oral** cavity for a period of between about 5 minutes and about 60 minutes.

SUMM [0034] The addition of ascorbyl phosphates and their salts, such as the trisodium salt of ascorbyl-2-monophosphate, to toxicologically acceptable **oral** carriers results in useful **oral care** compositions that may be used to counteract **tooth** decay, prevent **tooth** stain accumulation and assist in the regenerative process of periodontal tissues.

SUMM . . . I, in order that biologically viable phosphate ions are immediately released into salivary solution upon contact with tissue in the **oral** cavity or the ascorbyl phosphate compound with phosphatase enzymes in the **oral** cavity. Biological viability may include participation in calcium phosphate formation and precipitation. Both the ascorbic acid and phosphate moieties of the inventive compositions become biologically viable after contact with the **oral** cavity.

SUMM [0038] The D-ascorbic acid form of ascorbyl phosphate may also have utility in certain **oral** applications, where only free radical scavenging is desired and not other biological functions (where the L-ascorbic acid is the only. . .

SUMM . . . free radical scavenging precursor compound, such as those compounds of formula I, to one or more tissue surfaces in the **oral** cavity. Orally acceptable carriers include dosage forms such as toothpastes (dentifrices), gels, mouthwashes, rinses, chewing **gums**, lozenges, floss, interdental stimulating sticks, denture adhesives, buccal patches, **tooth** balms, dental tray-administered gels or pastes, sprays, chewable objects (such as an animal chew toy comprising rawhide as a carrier), food or feed coatings, topical dressings, or **tooth** varnishes. The orally acceptable carrier may also be administered to the **oral** cavity by means of or as part of an assembly or device, such as a dental tray, plastic strip, buccal patch, gingival retraction cord, or curable restorative material (such as a temporary cement or free-radically polymerized **tooth** composite). **Oral** acceptable carriers or delivery means for ascorbyl phosphate, other than those listed here, are known to those skilled in the. . .

SUMM . . . forms of calcium phosphate during use. Alternatively, the source of calcium ions may be saliva or saliva-coated surfaces in the **oral** cavity. Compositions containing both an ascorbyl phosphate

ester and a calcium ion source may have utility in the remineralization of **tooth** enamel, and may be useful in the reversal of such early stage **oral** hard tissue disease processes such as primary root caries lesions. In one embodiment, the calcium ion source may be an. . . from one another to avoid mixing or contact with one another until the point of use or application to the **oral** cavity. A particularly useful package for this embodiment is a dual-chambered syringe with an attached static mixer assembly, whereby a. . . tool is also contemplated. In yet another embodiment, the calcium ion source may be found in saliva or on an **oral** cavity surface, whereby the mixing of an ascorbyl phosphate mixture with calcium ions occurs in situ, that is, on one or more **oral** cavity surfaces.

SUMM . . . monofluorophosphate, stannous fluoride, amine fluorides, and other fluoride containing compounds capable of increasing the resistance of mineralized tissues in the **oral** cavity to caries formation (**tooth** decay). Anticaries agents may be included in the ascorbyl phosphate compositions at concentrations of from about 0.1% to about 4%. . .

SUMM . . . may be employed in the ascorbyl phosphate compositions to assist in the reduction or prevention of tartar formation on the **teeth**. Useful tartar control agents include the sodium and potassium salts of pyrophosphate, tripolyphosphate, and polyphosphates, as well as other calcium. . .

SUMM [0059] **Antimicrobial** Agents

SUMM [0060] In order to reduce or eliminate microorganisms responsible for **oral** diseases such as gingivitis, periodontitis, caries, and halitosis, an **antimicrobial** agent may be included in the inventive ascorbyl phosphate compositions. Such compounds are well known in the art, and include triclosan, chlorhexidine (and its salts), cetylpyridinium chloride, and essential oils including menthol, eucalyptol, thymol and methyl salicylate. **Antimicrobial** agents may be included in the ascorbyl phosphate compositions at concentrations between about 0.01% and about 2% by weight of. . .

SUMM [0061] **Tooth** Desensitizing Agents

SUMM [0062] While the ascorbyl phosphate compounds described herein may also exhibit activity as **tooth** desensitizers, due to the release of phosphate ions into salivary solution upon contact with the **oral** cavity (thus encouraging **tooth** remineralization resulting from the precipitation of calcium phosphate at the **tooth** surface), it may be advantageous to add a supplementary **tooth** desensitizer such as potassium nitrate, potassium citrate, or strontium chloride hexahydrate in order to further alleviate **tooth** sensitivity. Such supplementary **tooth** desensitizers may be included in the ascorbyl phosphate compositions at a concentration of from about 0.1% by weight to about 10% by weight of the composition. Potassium nitrate is the preferred supplementary **tooth** desensitizer and is included in the composition at a concentration of from about 3% to about 6% by weight of. . .

SUMM . . . The ascorbyl phosphate compositions, together with any auxiliary active ingredients, may be in the form of (or delivered to the **oral** cavity by means of) a toothpaste (**dentifrice**), gel, mouthwash, chewing gum, lozenge, floss, interdental stimulating stick, denture adhesive, buccal patch, **tooth** balm, dental tray-administered gel or paste, spray, chewable object (such as an animal chew toy comprising rawhide as a carrier), food or feed coatings, topical dressing, or **tooth** varnish.

SUMM . . . general may be accomplished by brushing, rinsing, spraying, chewing, swabbing, adhering or otherwise applying said compositions to one or more **oral** tissue surfaces. Application may also be made by placing an ascorbyl phosphate ester containing composition, for instance a gel, into a dental tray and attaching the tray to the maxillary (upper) and/or mandibular (lower) arch of **teeth** so that the **teeth** make contact with the gel inside the tray.

DETD [0071] Compounds of formula I may also be added to other types of

oral care compositions, as well as certain types of foodstuffs, including, but not limited to, chewing gum, dental floss, **tooth** whitening gels and pastes, breath sprays, buccal patches, medicament delivery strips, and lozenges. Furthermore, any device or carrier for delivery of a compound of formula I to hard and/or soft tissue surfaces in the **oral** cavity is contemplated have utility as a delivery system or device for the compositions, and in the practice of the. . .

DETD . . . of a phosphatase enzyme inhibitor, such as a fluoride ion source, in the compositions of the present invention. Other auxiliary **oral care** ingredients, such as those employed for tartar control, **tooth** bleaching or whitening, halitosis elimination or prevention, and microbial control, may also be included. Also, one or more ingredients for. . . the compound of formula I in a fashion so as to keep it in intimate or close proximity to the **tooth** or **oral** mucosal surface.

DETD . . . for use as one part compositions (whereby no mixing of components is necessary prior to applying the composition to the **oral** cavity). Suitable packages include syringes, tubes, bottles, jars, and unit dose packages, to name a few.

DETD . . . compositions (whereby two separately packaged components are combined to form a single component mixture just prior to application to the **oral** cavity) may be utilized. Two part compositions may be packaged by placing one of the components of the system in. . . mixer assembly. The mixture that emerges from the end of the static mixer assembly is preferably applied directly to the **oral** cavity, rather than being stored for an extended period of time.

DETD . . . or multi-part systems may be applied in sequence, whereby one separately packaged component is applied to a surface of the **oral** cavity, followed by the application (to the same **oral** cavity surface) of a second separately packaged component to the **oral** cavity, etc. Mixing of the two or more components is thus accomplished in situ, rather than prior to application.

DETD [0076] Method of Preventing **Tooth** Sensitivity Associated with Peroxide **Tooth** Whitening

DETD [0077] Most **tooth** whitening compositions that are capable of eliminating or reducing both extrinsic and intrinsic **tooth** staining contain an oxidizing compound. Typically, the oxidizing compound is either hydrogen peroxide, or a precursor to hydrogen peroxide, such. . . in enamel or exposed root surfaces), thus reaching vital pulp tissue within 15 minutes from initial contact of the peroxide **tooth** whitening composition on the **tooth** surface. It is speculated that the presence of peroxide in the pulp chamber is one of the major contributors to **tooth** sensitivity associated with such **tooth** whitening procedures.

DETD [0078] A particularly useful application of the inventive ascorbyl phosphate compositions is for alleviating or preventing the **tooth** sensitivity often associated with the use of peroxide-containing **tooth** whitening compositions. Upon contact with a **tooth** surface that has been treated with a peroxide-containing **tooth** whitening composition, the ascorbyl phosphate compositions provide a source of ascorbic acid upon hydrolysis by phosphatase enzymes present in the **oral** cavity. Ascorbic acid is known to be a powerful free-radical scavenger. While not wishing to be bound by any particular theory, release of ascorbic acid from ascorbyl phosphate applied to the **oral** cavity may reduce the likelihood of pulp tissue damage by scavenging free-radical degradation products of hydrogen peroxide, such as the. . . after hydrolysis of the ascorbyl phosphate molecule, in that free phosphate ion is released into salivary solution and at the **tooth** surface, thus creating conditions that are highly conducive to formation (typically by precipitation) of calcium phosphate crystals within the dentinal tubules. Blockage of the dentinal tubules is known to decrease **tooth** sensitivity by reducing the likelihood of fluid movement

within the tubules caused by external stimuli, such as heat, cold, and. . .

DETD [0079] A preferred method of reducing or eliminating the **tooth** sensitivity associated with peroxide-based **tooth** whitening procedures comprises the sequential steps of

DETD [0080] 1. Contacting a **tooth** surface or **tooth** surfaces with a peroxide-containing **tooth** whitening composition for a period of time in order to effect **tooth** whitening,

DETD [0081] 2. Contacting the same **tooth** surface or **tooth** surfaces with a composition comprising a compound of formula I, such as an ascorbyl phosphate

DETD [0082] Optionally, the ascorbyl phosphate compositions of the above method may contain other ingredients commonly employed in **oral care** formulations, such as humectants, thickeners, preservatives, foaming agents, solubilizers, adherence-enhancing agents, phosphatase enzyme inhibitors, **antimicrobial** agents, anticaries agents, tartar control agents, **tooth** desensitizing agents, sweeteners, and flavorants.

DETD . . . the ascorbyl phosphate in the method above can be a liquid, gel, paste, cream, stick, chewing gum, or any other **oral care** vehicle as would be well known to those skilled in the art. The compositions of the above method may be applied or positioned into close proximity with an **oral** cavity surface by rinsing, brushing, spraying, or chewing. An **oral** cavity surface may be the surface of a **tooth**, the **oral** mucosal, the tongue, or even a surface temporarily exposed during a dental surgical procedure, such as a root canal or cavity excavation. Another means of applying the compositions of the above method onto an **oral** cavity surface is by placing the composition in a dental tray, on a strip, or on a patch, and then placing said dental tray, strip or patch in the **oral** cavity, preferably in direct contact with the **oral** cavity surfaces to be treated.

DETD . . . have been prepared that demonstrate antioxidant activity when used as a denture adhesive to temporarily affix a denture to an **oral** mucosal surface. One example of such a denture adhesive is provided in the table below.

Petrolatum	31.259
Mineral Oil	14.271
Ascorbyl-2-phosphate, Na/Ca. . .	

CLM What is claimed is:

1. An **oral care** composition comprising (a) an orally acceptable carrier, and (b) an ascorbyl-2-phosphate compound having the following structure, or a sodium or. . .

. . . The composition of claim 1 which optionally includes one or more of an anticaries agent, a tartar control agent, an **antimicrobial** agent, and a desensitizing agent.

. . . The composition of claim 1 further including an ingredient promoting the adherence of the compound of formula I to the **tooth** or **gums**.

IT **23313-12-4** 30784-77-1 109113-30-6 **125913-31-7**, Rovimix Stay-C 35 134885-32-8 143567-34-4
(topical oral care compns. contg. ascorbyl phosphate)

L14 ANSWER 4 OF 7 USPATFULL

ACCESSION NUMBER: 2002:88005 USPATFULL

TITLE: Cosmetic skin care compositions containing cumic alcohol

INVENTOR(S): Carson, Robert, Rahway, NJ, United States
Patel, Krupa, Edison, NJ, United States

Pillai, Sreekumar, Wayne, NJ, United States
Granger, Stewart Paton, Paramus, NJ, United States
Lange, Beth Anne, Appleton, WI, United States
PATENT ASSIGNEE(S): Unilever Home & Personal Care (USA), division of Conopoco, Inc., Greenwich, CT, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6375961	B1	20020423
APPLICATION INFO.:	US 2000-597053		20000620 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-141636P	19990630 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Williamson, Michael A.
LEGAL REPRESENTATIVE: Plotkin, Ellen
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 526
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
SUMM . . . materials for various skin benefits such as sunscreen (J010182416), anti-oxidant (J02204495), whitening agent (J06256150), reduction of contact dermatitis (J04356423, J04356424), **antimicrobial** cosmetic preservative (J62181202, J09202712), bathing composition for dry skin (J09002939), acne cream (CN1136431) and hair growth (WO9522957).
SUMM . . . weight of the composition. Exemplary thickeners are cross-linked polyacrylate materials available under the trademark Carbopol from the B.F. Goodrich Company. **Gums** may be employed such as xanthan, carrageeran, gelatin, karaya, pectin and locust beans gum. Under certain circumstances the thickening function may be accomplished by a material also serving as a silicone or emollient. For instance, silicone **gums** in excess of 10 centistokes and esters such as glycerol stearate have dual functionality.
IT 50-81-7, Ascorbic acid, biological studies 50-99-7, Glucose, biological studies 57-50-1, Sucrose, biological studies 59-23-4, Galactose, biological studies 63-42-3, Lactose 536-60-7, Cumic alcohol 1330-84-3 3416-24-8, Glucosamine 25395-66-8, Ascorbyl stearate 82643-14-9, Glucose glutamate **108910-78-7**, Magnesium Ascorbyl phosphate 110632-98-9, Sodium Ascorbyl monophosphate 161436-56-2, Ascorbyl tetraisopalmitate 317351-67-0, Glucose phosphate
(cosmetic compns. contg. cumic alc.)

L14 ANSWER 5 OF 7 USPATFULL
ACCESSION NUMBER: 2000:109786 USPATFULL
TITLE: Compounds and their combinations for the treatment of influenza infection
INVENTOR(S): Jones, Dean P., Decatur, GA, United States
Furukawa, Satoru, Tokyo, Japan
PATENT ASSIGNEE(S): Nutri-Quest, Inc., Chesterfield, MO, United States (U.S. corporation)
Emory University, Atlanta, GA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6107281		20000822
APPLICATION INFO.:	US 1999-339629		19990624 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1998-5747, filed on 12 Jan 1998, now patented, Pat. No. US 6013632

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-35087P	19970113 (60)
	US 1997-35088P	19970113 (60)
	US 1997-34496P	19970113 (60)
	US 1997-35417P	19970113 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Nutter, Nathan M.
LEGAL REPRESENTATIVE: Pratt, John S., Gray, Bruce D.Kilpatrick Stockton LLP
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
LINE COUNT: 1206
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . form of chemical carcinogens is typically electrophiles, which can be detoxified by reactions catalyzed by GSH S-transferases. Administration of large **oral** dosages of GSH to rats with liver cancer results in substantial regression of the liver tumor. As noted above, GSH. . .

SUMM . . . of the epithelial cells so that supply of these compositions at relevant concentrations to the apical surface of the nasal, **oral** and upper respiratory epithelia can have the same effect by inhibiting protease activation of influenza virus.

SUMM . . . which are a primary site of initial infection in vivo. Thus, preparation of these compositions for direct delivery to the **oral**, nasal and respiratory epithelia, such as lozenge, **oral** rinse or nasal spray, can be used to prevent influenza infection. Other thiols and antioxidants can also have this effect. . . in risk of infection in humans and in veterinary or domestic animals. Preparations for supply of these compositions directly to **oral**, nasal and airway epithelia may also protect against other viral infections (e.g., common cold). In principle, vaginal or rectal suppositories,. . .

SUMM . . . acids and bases to adjust the pH; (2) other tonicity imparting agents such as sorbitol, glycerin and dextrose; (3) other **antimicrobial** preservatives such as other parahydroxy benzoic acid esters, sorbate, benzoate, propionate, chlorbutanol, phenylethyl alcohol, benzalkonium chloride, and mercurials; (4) other viscosity imparting agents such as sodium carboxymethylcellulose, microcrystalline cellulose, polyvinylpyrrolidone, polyvinyl alcohol and other **gums**; (5) suitable absorption enhancers; (6) stabilizing agents such as antioxidants, like bisulfite and ascorbate, metal chelating agents such as sodium. . .

SUMM . . . the above-indicated conditions. In one preferred regimen, such dosages are administered to each patient by either nasal spray or by **oral** lozenge. It will be understood, however, that the specific dose level and frequency of dosage for any particular patient may. . .

DETD . . . is to prevent extracellular activation of the virus, a process which can be achieved by supply of GSH to the **oral**, nasal and upper airway epithelium by **oral** rinse, lozenge, nasal spray or aerosolizer.

CLM What is claimed is:

. . . virus, by administering to a patient in need of such treatment an effective amount of a pharmaceutical composition suitable for **oral**, nasal or rectal administration comprising: (a) a compound selected from the group consisting of glutathione and glutathione disulfide, or a pharmaceutically acceptable salt thereof, and (b) a pharmaceutically acceptable carrier suitable for **oral**, nasal or rectal administration, said composition useful in preventing or treating of influenza virus infection.

IT 70-18-8P, Glutathione, biological studies 616-91-1P, N-Acetylcysteine **23313-12-4P**, Ascorbic acid 2-phosphate 27025-41-8P, Glutathione

disulfide
(compds. and pharmaceuticals for treatment of influenza virus infection)

L14 ANSWER 6 OF 7 USPATFULL

ACCESSION NUMBER:	2000:4794 USPATFULL
TITLE:	Compounds and their combinations for the treatment of influenza infection
INVENTOR(S):	Jones, Dean P., Decatur, GA, United States Furukawa, Satoru, Tokyo, Japan
PATENT ASSIGNEE(S):	Emory University, Atlanta, GA, United States (U.S. corporation) Nutri-Quest, Inc., Chesterfield, MO, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6013632		20000111	
APPLICATION INFO.:	US 1998-5747		19980112	(9)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1997-35087P	19970113	(60)
	US 1997-35088P	19970113	(60)
	US 1997-34496P	19970113	(60)
	US 1997-35417P	19970113	(60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Nutter, Nathan M.
LEGAL REPRESENTATIVE:	Kilpatrick Stockton LLP
NUMBER OF CLAIMS:	7
EXEMPLARY CLAIM:	1
LINE COUNT:	1216

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . form of chemical carcinogens is typically electrophiles, which can be detoxified by reactions catalyzed by GSH S-transferases. Administration of large **oral** dosages of GSH to rats with liver cancer results in substantial regression of the liver tumor. As noted above, GSH. . .

SUMM . . . of the epithelial cells so that supply of these compositions at relevant concentrations to the apical surface of the nasal, **oral** and upper respiratory epithelia can have the same effect by inhibiting protease activation of influenza virus.

SUMM . . . which are a primary site of initial infection in vivo. Thus, preparation of these compositions for direct delivery to the **oral**, nasal and respiratory epithelia, such as lozenge, **oral** rinse or nasal spray, can be used to prevent influenza infection. Other thiols and antioxidants can also have this effect. . . in risk of infection in humans and in veterinary or domestic animals. Preparations for supply of these compositions directly to **oral**, nasal and airway epithelia may also protect against other viral infections (e.g., common cold). In principle, vaginal or rectal suppositories,. . .

SUMM . . . acids and bases to adjust the pH; (2) other tonicity imparting agents such as sorbitol, glycerin and dextrose; (3) other **antimicrobial** preservatives such as other parahydroxy benzoic acid esters, sorbate, benzoate, propionate, chlorbutanol, phenylethyl alcohol, benzalkonium chloride, and mercurials; (4) other viscosity imparting agents such as sodium carboxymethylcellulose, microcrystalline cellulose, polyvinylpyrrolidone, polyvinyl alcohol and other **gums**; (5) suitable absorption enhancers; (6) stabilizing agents such as antioxidants, like bisulfite and ascorbate, metal chelating agents such as sodium. . .

SUMM . . . the above-indicated conditions. In one preferred regimen, such

dosages are administered to each patient by either nasal spray or by **oral** lozenge. It will be understood, however, that the specific dose level and frequency of dosage for any particular patient may. . .

DETD . . . is to prevent extracellular activation of the virus, a process which can be achieved by supply of GSH to the **oral**, nasal and upper airway epithelium by **oral** rinse, lozenge, nasal spray or aerosolizer.

CLM What is claimed is:

1. A pharmaceutical composition suitable for **oral**, nasal or rectal administration comprising (a) glutathione, or a pharmaceutically acceptable salt thereof; and (b) a pharmaceutically acceptable carrier suitable for **oral**, nasal or rectal administration, said composition useful in preventing or treating influenza virus infection.

. . . 1, which is in a form selected from the group consisting of a lozenge, a cough drop, a tablet, an **oral** rinse, a drinking solution, nasal drops, a nasal spray, an oleaginous suspension, and a suppository.

5. A pharmaceutical composition suitable for **oral**, nasal or rectal administration comprising (a) glutathione disulfide, or a pharmaceutically acceptable salt thereof; and (b) a pharmaceutically acceptable carrier,. . .

IT 70-18-8P, Glutathione, biological studies 616-91-1P, N-Acetylcysteine **23313-12-4P**, Ascorbic acid 2-phosphate 27025-41-8P, Glutathione disulfide
(compds. and pharmaceuticals for treatment of influenza virus infection)

L14 ANSWER 7 OF 7 COPYRIGHT 2002 Gale Group

ACCESSION NUMBER: 1999:22127 NLDB
TITLE: 1998 FOOD ADDITIVE SUMMARY.
SOURCE: Food Chemical News, (25 Jan 1999) Vol. 40, No. 49. ISSN: 0015-6337.
PUBLISHER: Food Chemical News, Inc.
DOCUMENT TYPE: Newsletter
LANGUAGE: English
WORD COUNT: 20496

TX CHLORINE DIOXIDE. Amended [section]173.300 to allow the safe use of chlorine dioxide as an **antimicrobial** agent in water used to wash certain fruits and vegetables intended for human consumption. National Food Processors Association petition filed. . .

RESINOUS . . . maleate, and methylvinyl cyclosiloxane as optional polymerization inhibitors; and (3) 5-chloro-2-methyl-4-iso-thiazolin-3-one and 2-methyl-4-isothiazolin-3-one mixtures, optionally containing magnesium nitrate, as an **antimicrobial** agent for emulsion-based silicone coating formulations. Dow Corning petition filed Feb. 12, 1993 (Feb. 15, 1993, Page 69). Amended July. . .

2,4,4'-TRICHLORORO-2-HYDROXYDIPHENYL ETHYL. To clear use as an **antimicrobial** agent in the manufacture of polyvinyl chloride gloves for food-contact use. Phoenix Medical Technology, Nov. 6, 1991 (Nov. 11, 1991,. . .

NEOMYCIN SULFATE **ORAL** SOLUTION. Amended [section]520.1485 to provide for revised withdrawal time of 30 days for cattle and goats and 20 days for swine and sheep, for **oral** solution as a drench and in drinking water for the treatment and control of colibacillosis. Abbreviated NADA from Phoenix Scientific. . .

STREPTOMYCIN **ORAL** SOLUTION. Amended [section]520 to provide for the use of streptomycin **oral** solution in drinking water for

the treatment of nonspecific infectious enteritis in chickens and for the treatment of bacterial enteritis. . .

SULFADIMETHOXINE **ORAL** SOLUTION AND SOLUBLE POWDER. Amended [section]520.2220a to provide for use of sulfadimethoxine soluble powder for use in drinking water as a drench and for use of the **oral** solution in drinking water as a drink, for treatment of various diseases in chicken, meat-producing turkeys, and dairy calves, dairy. . .

CHEMICALS . . . [section]173.315 to provide for the safe use of a mixture of peroxyacetic acid, hydrogen peroxide and 1-hydroxyethylidene-1,1-diphosphonic acid as an **antimicrobial** agent to wash or assist in the lye peeling of fruits and vegetables that are not raw agricultural commodities without. . .

PEROXYACETIC ACID, ACETIC ACID AND HYDROGEN PEROXIDE. **To** amend [section]178.315 to **clear** use to control microbial growth **in** water contacting fruits and vegetables. Ecolab Inc., July 13, 1995 (**July** 17, 1995, Page 26).

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